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CONSERVATION IN NEW MEXICO

PROGRESS REPORT 1972

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U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ALBUQUERQUE, NEW MEXICO

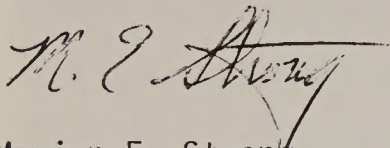
DAACS-PORTLAND, OREG. 9733
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FOREWORD

Again, in Fiscal Year 1972, we can be proud of the accomplishments of our Soil Conservation Service personnel in New Mexico. This report reveals the dedication of our employees' hard work in partnership with Soil and Water Conservation Districts.

The breadth of work as indicated in each section gives evidence of the ever broadening of our objectives and our mission. Other publications available from this office explain our work in greater detail.

We join with the Soil and Water Conservation Districts, the State Soil and Water Conservation Committee and the New Mexico Association of Soil and Water Conservation Districts in this report.

A handwritten signature in dark ink, appearing to read "M. E. Strong", with a stylized flourish extending from the end.

Marion E. Strong
State Conservationist

SOIL SURVEYS

The Soil Conservation Service makes soil surveys to collect basic facts about soils. These facts furnish information for making wise land use decisions.

Soil surveys are made to determine the important soil characteristics. The soils are classified and named using a nationwide classification system.

Soil surveys provide information about the soils' response to various uses and management practices. The distribution of the kinds of soils are shown on accurate maps. The maps are published with an accompanying text that describes each soils and its suitability for various uses.

Soil survey information, when properly interpreted, is valuable in many phases of community and resource planning in New Mexico. Some of the uses for which soil survey information has been used include:

1. Farm and ranch conservation planning.
2. Industrial site development.
3. Development of recreation areas.
4. Planning urban expansion.
5. Land appraisal for loans and tax equalization.
6. Watershed and river basin protection and development.
7. Forest and woodland management.



Soil Surveys are useful in locating sources of sand and gravel.

SCS PHOTO 12-P952-14

Soil surveys have been made on approximately 40 million acres of the 78 million acres in the state. The state is divided into 50 soil survey areas. The map on page 4 shows the location of each soil survey area within the state and the soil survey progress. The area where progressive soil survey information is available includes 76 percent of the total population in New Mexico.

Soil survey information is being used to a greater extent by land use planners, city and county planning commissions, land developers, councils of government, engineers, and others. Soil survey information is available for use in areas that include 91 percent of the urban population in New Mexico.

Several special soil surveys have been made and reports prepared on a cost-share basis to fulfill these needs in advance of the regular National Cooperative Soil Survey Program.



This house was abandoned because the septic tank filter field failed due to the fine-textured soil. Use of a soil survey in planning this subdivision could have foretold this problem.

SCS PHOTO 12-P738-16

Special soil survey reports that have been completed are:

Albuquerque Area
American Recreational
Properties Incorporated
(Sandoval County)
Las Vegas Area
Questa Community
Clovis Area
Town of Taos

Farmington Area
Grants-Milan Area
Raton Area
Village of Magdalena
Elephant Butte Estates
Red River Community
Espanola Area

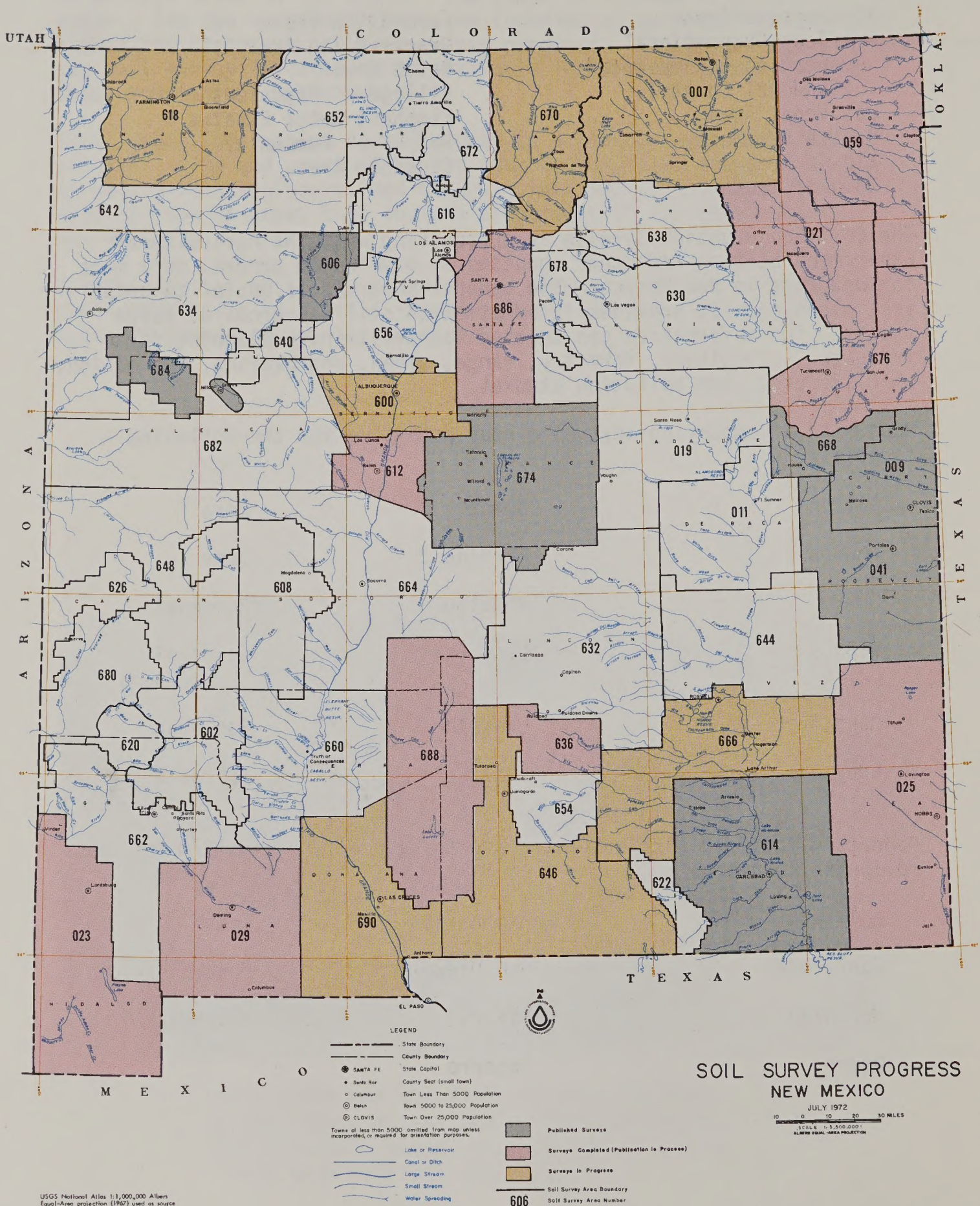
The Soil Conservation Service is cooperating with the Agricultural Experiment Station and other agencies in developing general soil maps for counties in New Mexico. The general soil map is useful in broad area planning. It provides information on soil resources of large tracts. The information can be used for preliminary planning for irrigated agriculture, forestry, range, urban, engineering, recreation, wildlife uses, and pollution studies.

Maps with accompanying text have been published for the following counties:

Catron	Grant	Mora
Chaves	Harding	Quay
Curry	Hidalgo	Roosevelt
DeBaca	Lea	Sandoval- Los Alamos
Dona Ana	Lincoln	San Juan
Eddy	Luna	Torrance

Reports with field work completed are to be published in 1973 for the following counties:

Colfax	Rio Arriba	Taos
Guadalupe	San Miguel	Union
McKinley	Sierra	Valencia
Otero	Socorro	



USGS National Atlas 1:1,000,000 Albers Equal-Area projection (1967) used as source for base map and adapted for SCS use.

USDA-SCS PORTLAND, OREGON, 1971

M7-O-22201-L

WATERSHED CONSTRUCTION

Construction is nearing completion on a \$1,000,000 contract for two floodwater retarding dams in the Santa Cruz River Watershed project in Santa Fe County.

Designs and specifications were prepared for two floodwater retarding dams in the Sebastian Martin-Black Mesa Watershed project. These will be contracted during fiscal year 1973. The work plan estimates construction costs to be approximately \$500,000.

Construction of the \$1,000,000 Great Canyon floodwater retarding dam in the Sibley, Green, Jaralosa, and Candler Arroyos Watershed project near Garfield neared completion.

Designs, plans, and specifications were prepared for Anthony Arroyo Watershed project near Anthony, New Mexico.

Site investigations were completed for two sites in the Sibley, Green, Jaralosa, and Candler Arroyos Watershed as basis for preparing designs and specifications on approximately \$1,200,000 in construction.



The need for watershed protection continues in New Mexico

SCS PHOTO 12-P1287-3

RESOURCE CONSERVATION AND DEVELOPMENT

The floodwater retarding dam for the La Mesilla Project Measure near Espanola was completed. It provides flood protection to approximately 50 families. Designs for the second phase, a concrete irrigation ditch lining, were prepared. The work will be constructed in fiscal year 1973 to complete this project.

The site for the proposed project measure for the Trout Creek Recreation Dam at Reserve was drilled. Samples are being tested to determine feasibility of the site for development.

The draft project measures work plan for the Rio Chama Acequia Consolidation, north of Espanola, was completed and is under review. The project, costing \$510,000 for construction, proposes a landowner investment totaling \$175,000.

RC&D will finance \$276,000, and the sponsors will finance the remainder of the \$826,700 cost. The project is to replace seven temporary diversion dams with one reinforced concrete dam. It consolidates the seven delivery systems into a single 16-mile long improved system and provides for adequate land treatment on 1,500 acres of irrigated land. Forty families will be benefited. The project measure will return \$1.30 for each \$1.00 of cost.

Primary engineering work on designs, plans and specifications for animal waste disposal systems for individuals and feedlot operators was completed for eight systems. These are located at Portales, Clovis, Los Lunas, Espanola, Lordsburg, and Clayton.

Engineering technical assistance was provided to 23 community acequia groups in northern New Mexico in the construction of \$531,525 in improvements of irrigation systems. Approximately 950 families received benefits on 19,300 acres of irrigated lands. These groups are in Santa Fe, San Miguel, San Juan, Rio Arriba, and Valencia Counties.

WATER SUPPLY FORECASTING

Snow storms through late November and December produced mid-winter snowpacks which were highest of recent years. This, coupled with an unusually wet fall, were the basis for early optimistic prospects for a satisfactory water supply. The early winter pattern of frequent, moist storms ended abruptly in January when precipitation over the San Juan, Rio Grande, Canadian, and Pecos River Basin ranged, for the most part from 5 to 30 percent of normal.

Water supply forecasts continued to drop as a result of continued lack of precipitation during February and March. The excellent early-winter snowpack continued to shrink with warm March temperatures which produced an accelerated runoff for this period. Streamflow during March was above average on most drainages.

April precipitation continued at 30 to 60 percent of average. By May 1 the only remaining snow was at the extremely high mountain elevations. With the continuation of the winter drought into spring, the May forecast was again revised downward.

The following tabulation of results at key measuring stations is indicative of the condition of the state:

Station	Forecast Flow Acre Feet	Actual Flow Acre Feet	1953-67 Average Flow Acre Feet	Percent of Average
Rio Grande at Otowi	260,000	209,000	513,000	41
Rio Grande at San Marcial	120,000	83,000	334,000	69
Rio Chama at El Vado Reservoir	120,000	90,000	188,000	48

Many water users experienced severe water shortages during the summer. Irrigators in some sections of the state were out of water or had to severely curtail operations. Some New Mexico communities experienced shortages in domestic water. Showers and thunderstorms, which began in June and continued through the summer, contributed much to relieve water shortages and improve range conditions.

AGRONOMY

Cropland

SCS PHOTO 12-834-5



Cotton is a Major Income-Producing Crop in New Mexico

SCS PHOTO 12-834-5

Cotton, grain sorghum, barley, wheat, corn, peanuts, and vegetables are major crops on New Mexico's 2,600,000 acres of crop land. Over one million of these acres are irrigated.

Two hundred and eighty-one conservation irrigation systems were installed on farms of district cooperators this year. Conservation cropping systems were applied for the first time or improved on 139,373 acres. Improved irrigation water management was used on 53,627 additional acres.



Cattle on well established irrigated grass pasture near Deming

Pasture and hay land in New Mexico make up about 75,000 acres. Alfalfa is the leading hay crop. Tall fescue, tall wheatgrass, orchardgrass and smooth brome grass are the most widely used irrigated pasture grasses.

There is increased interest in establishing more land to irrigated pasture. This year, about 4,469 acres were planted to pasture on district cooperator's farms and ranches.

Improved pasture management was practiced on over 30,036 acres this year.

Rangeland

New Mexico ranks third in rangeland area among the states. Fifty-five percent of the state, or 45 million acres of private and state lands, is used for grazing for wildlife and domestic livestock. It is the largest single source of agricultural income in the state.

The Soil Conservation Service assists landowners and operators using this resource to plan and develop conservation treatment systems to improve range and wildlife conditions, and to reduce sediment and stream

pollution. Treatment systems are analyzed on the basis of economic, environmental, and social impact upon the individual and community. As of June 30, 1972, resource plans have been developed by 9,287 owners and operators on 29,811,909 acres. About 90 percent is rangeland.



Excellent range condition, proper grazing use, and a planned grazing system contribute to the clear streamwater on the Baca Land and Cattle Company Ranch in the Jemez Soil and Water Conservation District.

SCS PHOTO 12-PI270-12

Essential to the management of the range resource is the grazing system--the planned pattern or program for using the forage resource. The success of the grazing system is dependent upon management of animals to attain proper grazing use of the key range plants. At present, about 22 million acres of the state's private and state rangelands are being grazed at an intensity that will maintain adequate cover for soil protection. Another six million acres are being deferred and are under grazing systems for improvement of the plant composition for increased range conditions.

Other conservation practices, such as livestock water development, fencing, brush manipulation, mechanical treatment, and range seeding, support and are essential to the success of the treatment systems.

Biology and Outdoor Recreation

The Pecos Valley Catfish Growers Association notes a stabilization trend in catfish production. Small growers are dropping out of the business. Local retail markets continue to absorb all of the locally produced fish.

The expanding sale of rural mountain properties for vacation homesites is increasing our assistance programs in the areas of revegetation, erosion control, pond construction, and fish and wildlife management.

The City of Alamogordo has established an Outdoor Classroom for the school system. A multi-agency, interdisciplinary team was organized to assist in the planning and development.

A number of communities, including Logan, San Jon, House, Las Vegas, and Santa Rosa have received planning assistance for community parks and recreation areas. The Soil Conservation Service assists the local park and recreation boards in preparing a site prospectus for the purpose of making applications for Land and Water Conservation Funds, as administered by the State Planning Office and Bureau of Reclamation.

There has been a reduction in the number of ranch and farm operators who have established income recreation enterprises. There is a strong continuing interest in exploring the profit potentials for recreation as a full-time or part-time operation. The substantial investment in time and capital required to develop and operate a quality recreation enterprise, together with the difficulty in obtaining financing, has worked to discourage many interested landowners.

Woodlands

New Mexico woodland owners are becoming more aware of the worth of their holdings as new markets develop for wood products and land values climb due to sub-division developments in the lower ponderosa pine and pinon vegetative zones. Landowners are responding to the need for improved management practices involving all uses of woodland. One large ownership in Colfax, Colorado, has recognized the need for improved management and placed a forester on its staff.

Windbreak planting rose significantly this year in some parts of the state, although planting stock was scarce. Some SCD's partially solved the shortage problem by sending vehicles to Nebraska nurseries for planting stock.



CARY HULL PHOTO

Build-up in Pinon Type

Christmas tree management has received considerable attention by landowners since the appropriation for Christmas tree research. This year, the Soil Conservation Service, in cooperation with the Department of State Forestry, established a field trial to check the response of several tree species to management. The results of this trial will be correlated with the research findings to provide management recommendations to landowners.

Legislation

The 1972 State of New Mexico Legislature enacted the State's first law covering surface mining reclamation. The law created a Coal Surface Mining Commission, which has requested the Soil and Water Conservation Districts to provide resource data on the stabilization, erosion control, and sediment reduction aspects of applications for coal strip mining.

A proposed Land Subdivision bill, if passed, will require that Soil and Water Conservation Districts supply information on floodplains, drainage, and soils for each plotting request submitted to county commissioners.

